Cone Drive

#23169-Jun2018

Approved List of Lubricants

For Cone Drive Double Enveloping Worm Speed Reducers & Gearsets

MANUFACTURER	BRAND NAME	TYPE
Chevron	Chevron Clarity Synthetic Machine Oil 460	7S
Exxon Mobil Oil Corp.	Mobil SHC 634	7S
Exxon Mobil Oil Corp.	Mobil Glygoyle 460	7GF
Exxon Mobil Oil Corp.	Mobil SHC Cibus 460	7SF
Kluber Lubrication	Klubersynth GEM 4-460N	7S
Kluber Lubrication	Kluberoil 4 UH1 460 N	7SF
Kluber Lubrication	Klubersynth UH1 6-460	7GF
Lubriplate Lubricants Co.	Lubriplate PGO-FGL 460 Synthetic Gear Oil	7GF
Lubriplate Lubricants Co.	Lubriplate SFGO Ultra 460 Synthetic Gear Oil	7SF
Royal Purple, Ltd.	Thermyl-Glyde Worm Gear 680	7S
Shell Lubricants	Shell Morlina S4 B 460	7S
Shell Lubricants	Shell Omala S4 WE 460	7G
Bel-Ray Company	Bel-Ray HP Worm Gear Oil 680	8M
Chevron	Cylinder Oil W-680	8M
Citgo	Cylinder Oil #680-7	8M
Castrol	Worm Gear Lubricant 680	8M
Total Lubricants	Cylan WG 680	8M
Lubriplate Lubricants Co.	Lubriplate SPO-288	8M
Lubrication Engineers	680 Almasol	8M
Mobil Oil	Extra Hecla Super Cylinder Oil	8M
Shell Lubricants	Shell Omala *S1* W 680	8M
Castrol	Worm Gear Lubricant 1000	8AM
Lubriplate Lubricants Co.	Lubriplate CP-8A	8AM
Mobil Oil	Extra Hecla Super Cylinder Oil Mineral	8AM
Total Lubricants	Cylan WG 1000	8AM

	LUBRICANT TYPE CODES					
	Polyalphaolefin Type (Synthetic PAO)		Polyalkylene Glycol Type (Synthetic PAG)		Compounded Type (Mineral)	
ISO Viscosity Grade	Non-Food	Food-Grade[2]	Non-Food	Food-Grade[2]	Non-Food	Food-Grade[2]
460	7S	7SF	7G	7GF	7M	7MF
680	8S	8SF	8G	8GF	8M	8MF
1000	8AS	8ASF	8AG	8AGF	8AM	8AMF

NOTES:

1) The listed synthetic lubricants are acceptable for use as Type #7, #8 or #8A.
2) For specific food grade approval information, refer to manufacturer for details.
3) Viscosity grades other than those shown may be recommended by Cone Drive Engineering.

Cone Drive Operations, Inc.
240 E. 12th Street, P.O. Box 272, Traverse City, MI 49685-0272 USA
Phone: 231-946-8410, Fax 231-933-8600
www.conedrive.com Sales Phone: 888-994-2663 Sales Fax: 888-907-2663

Cone Drive

#23169-Jun2018

Lubrication Information

For Cone Drive Double Enveloping Worm Speed Reducers & Gearsets

General Lubricant Number Guidelines

CENTER DISTANCE	WORM SPEED (RPM)	AMBIENT TEMPERATURE		WORM SPEED ABOVE (RPM)	AMBIENT TEMPERATURE
		-10°C to +10°C (14°F to 50°F)	+10°C to +50°C (50°F to 125°F)		-10°C to +50°C (14°F to 125°F)
Up to 6" inclusive	0-700	Type 7S or Type 8M	Type 7S or Type 8AM	700-up	Type 7S or Type 8M
Over 6" to 12"	0-450			450-up	
Over 12" to 18"	0-300			300-up	
Over 18" & above	0-200			200-up	

Viscosity Ranges (for reference)

ISO Viscosity Grade	cSt @40°C
460	414-506
680	612-748
1000	900-1100

Lubrication and Maintenance Notes:

1 **Type of Oil.** For Cone Drive double enveloping worm gear speed reducers use the lubricant information on the nameplate and this *Approved List of Lubricants* to select the proper lubricant. For Cone Drive gear sets used in other assemblies, use this document to select a lubricant. Contact Cone Drive if in doubt.

2 **Ambient Temperature.** The lubricants in this list are for use in an ambient temperature range of approximately 15°F to 125°F with the low end of the range depending on the pour point of the specific oil used. The lubricant Pour Point must be at least 5°C (9°F) less than the minimum startup temperature expected. If the ambient temperature will be below or above this range please contact Cone Drive for specific recommendations on proper lubricant as well as proper oil seal and shim materials.

3 **Sludge.** It is necessary that the oil be clean and free from sludge at all times to obtain long life from the gear unit. Sludge in gear units may be caused by excessive heat, from dust and dirt and other contaminates and by the presence of moisture or chemical fumes. Therefore, every precaution should be taken to prevent water and foreign particles from entering the gear case.

4 **Oil Change.** Refer to the product maintenance instructions for oil change interval recommendations.

If switching to a different type of lubricant, care must be taken to thoroughly flush out the old lubricant before filling with the new lubricant. Mixing of different lubricants can result in degraded performance or failure.

5 **Extreme Pressure (EP) Lubricants.** Extreme Pressure (EP) lubricants or cylinder oils with sulfur-phosphorus additives are not acceptable and should not be used with worm gearing.

6 **High Speed Applications.** Double enveloping worm gears operating at a sliding velocity in excess of 10 m/s (2,000 ft/min) may require force-feed lubrication. For force feed lubrication recommendations, contact Cone Drive Engineering.

7 **Greased Bearings.** High quality lithium base NLGI #2 or NLGI #3 grease should be applied to fittings at normal maintenance intervals depending on duty cycle. Only bearings requiring added grease will have fittings.

Cone Drive Operations, Inc.
240 E. 12th Street, P.O. Box 272, Traverse City, MI 49684-0272 USA
Phone: 231-946-8410, Fax 231-933-8600
www.conedrive.com Sales Phone: 888-994-2663 Sales Fax: 888-907-2663